VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Paragraph beginning at line 17 of page 11 has been amended as follows:

In an especially advantageous embodiment, the protein according to the invention is a recombinant protein, which in addition to a functional part or all of the sequence disclosed in SEQ ID NO. 2 also comprises a tag, such as a conventional further amino acid sequence, which confers properties that facilitates purification, downstream analysis, such as Western blot, reversible immobilization, immunoprecipitation, immunofluorescence analysis *etc.* Said tag may e.g. be the peptide His6(Piece of SEQ ID NO: 3). In a particular embodiment, the present invention is a fusion protein, wherein the present protein or a functional subsequence thereof is fused with another protein, such as β-galactosidase, glutathione-S-transferase, protein A *etc.* In the context of fusion proteins, see *e.g.* Smith and Johnson (1988) *Gene* 67:31; Hopp *et al.* (1988) *Biotechnology* 6:1204; La Vallie *et al.* (1993) *Biotechnology* 11:187.

Paragraph beginning at line 1 of page 22 has been amended as follows:

Competitive assay formats are preferred in the present context, wherein the amount of analyte, preferably an unknown

quantity of antibodies in a subject, in a sample is measured indirectly by measuring the amount of added analyte, displaced from a capture agent by the analyte present in the sample. Most preferred are the enzyme-linked immunosorbent assay (ELISA) methods, in which an antibody typically is bound to an enzyme, such as peroxidase or phosphatase, which can produce colored reaction products from an appropriate buffer. Thus, it utilizes a tagged antigen molecule of known quantity to determine an unlabelled antigen of unknown quantity. Preferably, the protein according to the invention, or a suitable functional fragment thereof, is used coupled to a conventional tag, such as His6(Piece of SEQ ID NO: 3). This assay is *e.g.* useful to diagnose *Sarcoptes scabiei* infection in dogs.

Paragraph beginning at line 4 of page 27 has been amended as follows:

Cloning of part of the 5' cDNA end of MSA1

A PCR strategy was used in order to clone regions upstream of the cDNA insert in pPU3. In the first PCR the primer KBE 5 (5'CAC TAT CGG AGA ACG TAA CTT CGG 3') (SEQ ID NO: 4), complementary to the anti-sense strand of the insert in pPU3, was desigend and used together with a T3 primer, complementary to the vector used to construct the cDNA library. As a template the *S. scabiei* cDNA-libray was used. The resulting fragment was cloned into the *Sma*I-site of pUC18 and sequenced as above. This new fragment was then

used for the design of a second primer KBE 8 (5'CCT GGC ATT CTA CTT GAG ATG TA 3') (SEQ ID NO: 5) for the amplification an additional 5'end cDNA fragment. The second 5'end fragment was cloned and sequenced as above. A continuos cDNA which included the original MSA1 cDNA and both of the 5' end fragments was generated by using the Titan™ One Tube RT-PCR system (manufactured by Roche). For the reverse transriptase step the reverse primer MSA1Xba (5'CGC **TCT AGA** CTC AAC AAT GAA TGT CTG CAA 3') (SEQ ID NO: 6) was used. In the PCR, the reverse primer was used in combination with the forward primer LDL 2 (5'CG**G GAT CC**G AAT ATT TCG TCT CGA AAC CG 3') (SEQ ID NO: 7). The resulting fragment was cloned into the *Bam*HI-*Xba*I sites of pPU16 utilizing the recognition sites introduced during the PCR (shown in boldface). A graphic overview of the cloning strategy is shown in Fig.

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Amend claim 4 as follows:

--4. (Amended) An isolated nucleic acid encoding a protein according to ~~any one of claims 1-3~~ claim 1.--

Amend claim 6 as follows:

--6. (Amended) A nucleic acid which hybridizes specifically under stringent conditions to a nucleic acid according to claim 4~~ or 5~~.--

Amend claim 7 as follows:

--7. (Amended) An expression vector which comprises a nucleic acid according to ~~any one of claims 4-6~~ claim 4.--

Amend claim 8 as follows:

--8. (Amended) A method for producing a protein, which method comprises the steps of

(a) providing a DNA according to ~~any one of claims 4-6~~ claim 4;

(b) introducing said DNA in an expression vector;

(c) insertion of said vector into a suitable host cell;

(d) culturing said host cell to obtain the desired protein product; and optionally

(e) purification of the protein or polypeptide produced.--

Amend claim 10 as follows:

--10. (Amended) An antibody raised against a protein according to ~~any one of claims 1-3~~ claim 1.--

Amend claim 12 as follows:

--12. (Amended) Use of a protein according to ~~any one of claims 1-3~~ claim 1 in an immunosorbent assay, such as enzyme-linked immunosorbent assay (ELISA).--

Amend claim 13 as follows:

--13. (Amended) Use of a protein according to ~~any one of claims 1-3~~ claim 1 in a screening method wherein compounds having the same or similar biological activities as said protein are identified.--

Amend claim 14 as follows:

--14. (Amended) a method for screening protein or peptide analogues that mimic at least a part of the structure of the protein according to ~~any one of claims 1-3~~ claim 1, which comprises the steps of

(a) producing a multiplicity of analogue structures and

(b) selecting an analogue structure, wherein the three-dimensional configuration and spatial arrangement of one or more biologically active regions remain substantially preserved.--

Amend claim 16 as follows:

--16. (Amended) A protein according to ~~any one of claims 1-3~~ claim 1 for use as a vaccine.--

Amend claim 17 as follows:

--17. (Amended) Use of a protein according to ~~any one of claims 1-3~~ claim 1 in the manufacture of a vaccine preparation.--

Amend claim 18 as follows:

--18. (Amended) A vaccine preparation comprising a protein according to ~~any one of claims 1-3~~ claim 1 and a pharmaceutically and/or veterinary acceptable carrier.--

Amend claim 20 as follows:

--20. (Amended) A method of preventing a disease associated with mites, such as *Sarcoptes scabiei*, in a subject, such as a human, canine of porcine subject, which method comprises administration of a preparation according to claim 18 ~~or 19~~ to said subject in a pharmaceutically effective dose.--

Amend claim 22 as follows:

--22. (Amended) A method for the diagnosis of a mite associated disease comprising the steps of

(a) immobilizing a protein according to ~~any one of claims 1-3~~ claim 1;

(b) providing a sample suspected of being infected with said mite associated disease;

(c) incubation of said sample with said immobilized protein; and

(d) detection of an antibody bound to the immobilized antigen and thus specific for said mite associated disease; whereby a conclusion regarding the diagnosed condition is obtained.--

Amend claim 24 as follows:

--24. (Amended) A kit for performing the method according to claim ~~22 or~~ 23.--